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Bibliographic data: JP 2005099186 (A)

OPTICAL MODULATION DEVICE, OPTICAL MODULATION ARRAY DEVICE AND EXPOSURE APPARATUS USING THE SAME

Publication date: 2005-04-14
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Classification:
- international: **B81B3/00; B81B7/04; G02B26/08;** (IPC1-7): B81B3/00; B81B7/04; G02B26/08
- European: G02B26/08M4E

Application number: JP20030330508 20030922

Priority number(s): JP20030330508 20030922

Also published as:

- JP 4406549 (B2)
- US 2005117196 (A1)
- US 7164522 (B2)

Abstract of JP 2005099186 (A)

PROBLEM TO BE SOLVED: To provide an optical modulation device and an optical modulation array device which can displace an optical reflector in a non-contact state, perform high speed driving at low voltage, and realize miniaturization and high resolution easily, and to provide an exposure apparatus using the optical modulation array device.
SOLUTION: The optical modulation device is provided with: a substrate 21; a movable member 31 which is movably mounted on the substrate 21 and has a conductive part at least at part of itself; an optical functional film 27 which follows the displacement of the movable member 31 and is fixed on the movable member 31; and a fixed driving electrode 33 which is arranged outside a track region in which the movable member 31 is mechanically movable and drives and displaces the movable member 31. Electrostatic attraction force acts between the movable member 31 and the fixed driving electrode 33 by applying driving voltage between the conductive part of the movable member 31 and the fixed driving electrode 33, the movable member 31 is driven, displaced and stopped in a non-contact state, and light for irradiating the optical functional film is modulated. ;
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